AMENDMENTS TO THE CLAIMS

1. (Currently amended) A modified recombinant *E. coli* or yeast host cell, which, in unmodified form, does not produce polyketides, which cell is modified to contain an expression system that comprises at least one nucleotide sequence that encodes a minimal modular or fungal polyketide synthase (PKS) capable of being expressed and an expression system that comprises at least one nucleotide sequence that encodes [[for]] a holo acyl carrier protein (ACP) synthase, wherein the ACP synthase ~~capable of being expressed and effective in the pantetheinylation of~~ pantetheinylates said PKS and said ACP synthase is not associated with fatty acid synthesis,

~~said minimal PKS comprising a ketosynthase/acyl transferase (KS/AT) catalytic region, a chain-length factor (CLF) catalytic region and an acyl carrier protein (ACP) activity for an aromatic PKS; or~~

said minimal PKS comprising a KS catalytic region, an AT catalytic region, and an ACP activity for a modular PKS or a fungal PKS.

2. (Cancelled).

3. (Currently amended) The modified cell of claim 1 wherein said minimal PKS is the synthase for 6-methyl salicylic acid.

4. (Cancelled).

5. (Original) The modified cell of claim 1 wherein said expression system for said minimal PKS and said expression system for said holo ACP synthase are present on separate vectors.

6. (Original) The modified cell of claim 1 wherein at least one of said expression systems is integrated into the host cell chromosome.

7. (Cancelled).

8. (Currently amended) A modified recombinant yeast, *E. coli*, or plant host cell, which in unmodified form does not produce polyketides, modified to contain either

a) at least a first and a second vector; said first vector containing a first selectable marker and a first expression system and said second vector containing a second selectable marker and a second expression system and optionally additional vectors containing additional selectable markers and expression systems wherein said expression systems contained on said vectors are effective to produce at least a minimal polyketide synthase (PKS); or

b) at least one vector and a modified chromosome, said one vector containing a first selectable marker and a first expression system and said modified chromosome containing a second expression system and optionally additional vectors containing additional selectable markers and expression systems wherein said expression systems contained on said vectors in combination with said expression system on said chromosome are effective to produce at least a minimal PKS;

~~said minimal PKS comprising a ketosynthase/acyl transferase (KS/AT) catalytic region, a chain length factor (CLF) catalytic region and an acyl carrier protein (ACP) activity for an aromatic PKS; or~~

said minimal PKS comprising a KS catalytic region, an AT catalytic region, and an ACP activity for a modular PKS.

9. (Cancelled).

10. (Currently amended) The cell of claim 8 which further contains an expression system for a cell-based detection system that comprises at least one nucleotide sequence that encodes [[for]] a polyketide responsive target for a ~~functional~~ polyketide.

11. (Cancelled).

12. (Currently amended) The cell of claim 8 which produces at least a minimal modular PKS and which contains

(a) a first vector containing a first selectable marker and a first expression system, wherein said first expression system comprises a nucleotide sequence encoding [[for]] at least a first module of a polyketide synthase (PKS) operably linked to a promoter operable in said cell; and

(b) a second vector containing a second selectable marker and a second expression system, wherein said second expression system comprises a nucleotide sequence encoding [[for]] at least a second module of a polyketide synthase operably linked to a promoter operable in said cell.

13. (Previously presented) The cell of claim 12 wherein said first module is that of a first polyketide synthase (PKS) and said second module is that of a second PKS, wherein said first and second PKS are different.

14. (Previously presented) The cell of claim 13 wherein said nucleotide sequence encoding at least a first or a second module further contains a nucleotide sequence encoding a ketoreductase (KR) activity; or

wherein the nucleotide sequence encoding at least a first or a second module further contains a nucleotide sequence encoding a KR and a dehydratase (DH) activity; or

wherein said nucleotide sequence encoding at least a first or a second module further contains a nucleotide sequence encoding a KR, DH and an enoylreductase (ER) activity; and/or

wherein said nucleotide sequence encoding at least ~~one~~ a first or a second module further contains a nucleotide sequence encoding a thioesterase (TE) activity.

15. (Cancelled).

16. (Previously presented) The cell of claim 8 which is further modified to contain a recombinant expression system for a holo ACP synthase capable of being expressed and effective in the pantetheinylation of said PKS.

17. – 29. (Cancelled).

30. (Currently amended) A vector adapted for expression in yeast ~~which vector contains~~ comprising a nucleotide sequence encoding a selectable marker operable in yeast**[[,]]** and ~~an expression system which comprises a coding region of~~ a modular or fungal polyketide synthase (PKS) gene operably linked to a promoter operable in yeast, wherein the product of the gene has at least one functional polyketide synthase catalytic activity ~~of a polyketide synthase operably linked to a promoter operable in yeast~~.

31. (Original) A yeast cell modified to contain the vector of claim 30.

32. (Currently amended) The yeast cell of claim 31 which further contains a recombinant expression system for a holo ACP synthase gene, the product of which being ~~capable of being expressed and~~ effective in the pantetheinylation of said PKS.

33. (Original) A method to produce a polyketide synthase activity which method comprises culturing the yeast cell of claim 31 under conditions wherein expression is favored.

34. (Original) A method to produce a polyketide synthase activity which method comprises culturing the yeast cell of claim 32 under conditions wherein expression is favored.

35-36. (Cancelled).

37. (Currently amended) An *E. coli* cell which contains a vector comprising a comprising a nucleotide sequence encoding a selectable marker operable in *E. coli*, and a modular or fungal polyketide synthase (PKS) gene operably linked to a promoter operable in *E. coli*, wherein the product of the gene has ~~an expression system which comprises the coding region of~~ at least one functional polyketide synthase catalytic activity ~~of a polyketide synthase operably linked to a promoter operable in *E. coli*~~ and a recombinant expression system ~~for~~ encoding a holo ACP synthase gene, the product of which is ~~capable of being expressed and~~ effective in the pantetheinylation of said PKS.

38. (Cancelled).

39. (Currently amended) A method to produce a functional modular or fungal polyketide synthase which method comprises culturing the *E. coli* cell of claim 37 under conditions wherein expression is favored.

40. (Previously presented) The cell of claims 1, 16, 32, or 37, wherein the holo ACP synthase is derived from *Bacillus*.

41. (Currently Amended) The cell of claims 1, 16, 32, or 37, wherein the holo ACP synthase is EntD, GsP, ~~ACPS,~~ or sfp.